



IFW / APF

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of  
David W. Manning, et al.

Serial No.: 10/624,360

Filed: July 22, 2003

Title: BATTERY-POWERED SEWER  
AND DRAIN CLEANER

Group No.: 1744

BEFORE THE BOARD  
OF PATENT APPEALS  
AND INTERFERENCES

Appeal No. \_\_\_\_\_

APPELLANTS' APPEAL BRIEF

Commissioner for Patents  
Alexandria, VA 22313

Dear Sir:

REAL PARTIES IN INTEREST

The Appellants have not assigned any of their rights; therefore, the real parties in interest are David W. Manning and John A. Kline.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to this case.

STATUS OF THE CLAIMS

This is an appeal of the Examiner's final rejection of claims 1-7. Claim 1 is an independent claim with claims 2-7 ultimately depending therefrom. Appellants believe that each of the claims is individually allowable and stands by itself.

### STATUS OF AMENDMENTS

The Examiner entered a final rejection of Appellants' claims on March 29, 2005. Appellants did not file an Amendment After Final Rejection.

### SUMMARY OF THE INVENTION

Sewer and drain cleaners are normally hand-driven or electrically driven. The professional grade sewer and drain cleaners are normally powered by an alternating current (AC) electric motor. The sewer and drain cleaners used by plumbers are normally used in wet conditions since the sewer and drain cleaners are not normally used unless there has been a sewer or drain backup or the like. Normally, a plumber will use an extension cord which extends from the AC electric motor on the cleaner to an electrical outlet. Frequently, the electrical extension cord comes into contact with water thereby posing an extremely dangerous electrical shock hazard. (Page 1, lines 17-25). Many plumbers are electrocuted annually when the electrically driven sewer and drain cleaners are used in such wet conditions. (Page 1, line 25; page 2, lines 1-2).

This invention relates to a battery-powered sewer and drain cleaner which is essentially the same as a professional grade sewer and drain cleaner except that the motor on the cleaner of this invention is a DC electric motor and is driven by a battery associated therewith. (Page 2, lines 4-6). The fact that the sewer and drain cleaner of this invention is DC battery-powered eliminates the need for extension cords and eliminates the electrocution hazard normally associated with electrically driven sewer and drain cleaners. (Page 2, lines 10-14). The sewer and drain cleaner of this

1 invention is referred to generally by the reference numeral 10 and includes a wheeled  
frame 12 which is manipulated through the use of a handle 14. (Page 3, lines 9-11).  
Cleaner 10 is of the belt or chain-driven type and includes a rotatable drum 16 having  
a conventional plumber's snake 18 associated therewith. Normally, the drum 16 and  
5 the snake 18 would be operated by an AC motor with the attendant electrocution  
hazard associated therewith. In the cleaner of Fig. 2, the AC motor has been  
replaced by a DC motor 20. Appellants have experimented with various motors and  
have found that low voltage motors such as an 18-volt DC motor work satisfactorily.  
10 Preferably, the motor 20 is high speed and high torque. The main criteria is that the  
motor have sufficient torque and shaft speed to rotate the drum at 230-350 RPM with  
the motor being driven by a rechargeable DC battery 22. (Page 3, lines 15-25).  
Preferably, the battery 22 is of the rechargeable type and is of the battery pack  
design which may be easily removed from the cleaner for recharging purposes.  
15 (Page 3, line 25; page 4, lines 1-2).

Fig. 1 illustrates a modified form of the cleaner and which is referred to by the  
reference numeral 10'. Cleaner 10' is identical to the cleaner 10 except that the DC  
motor 20' is connected to the drum 16' by a gear drive rather than a belt drive.  
20 Cleaner 10' includes a battery 22' and control 24'. (Page 4, lines 3-9).

The sewer and drain cleaner of this invention eliminates the need for  
extension cords and eliminates the electrocution hazard normally associated with AC  
motor-driven sewer and drain cleaners through the use of the DC motor and the  
battery employed in the instant invention. (Page 4, lines 10-14).  
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ISSUES

(A) Whether claims 1-7 are unpatentable over O'Brien '740 pursuant to 35 U.S.C. § 103(a).

GROUPING OF CLAIMS

Claim 1 is an independent claim with claims 2-7 ultimately depending therefrom. Appellants believe that each of the claims defines subject matter which is patentable and stands by itself.

ARGUMENT

(A) Whether claims 1-7 are unpatentable over O'Brien '740 pursuant to 35 U.S.C. § 103(a).

In the final rejection, the Examiner stated that with respect to claim 1, the patent to O'Brien '740 discloses all of the recited subject matter with the exception of a motor that is a DC motor and a rechargeable battery mounted on the frame for powering the DC motor. The Examiner has taken the position that with respect to claim 1 it would have been obvious to one of ordinary skill in the art to have modified O'Brien's cleaner such that the motor is a DC motor to aid in O'Brien's goal of easing portability of the entire device. The Examiner has taken the position that avoiding the need for long extension cords leading to electrical outlets would be contrary to O'Brien's stated goal of portability. The Examiner also believes that including a rechargeable battery mounted on the frame for powering the DC motor and enabling the battery to be recharged for prolonged usage and extending its useful life would be obvious.

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As to claim 2, the Examiner believes that the motor of O'Brien is operatively connected to the drum by a belt drive 60. (Fig. 1).

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With respect to claim 3, the Examiner states that one skilled in the art would find it obvious to use a belt or gear arrangement between the motor and drum since they are practically functional equivalents of each other in order to drive the drum and that the choice would depend on manufacturing and design requirements.

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With respect to claim 4, the Examiner believes that one skilled in the art providing for a rechargeable battery would find it obvious to provide for a battery "pack" as such is conventionally known in the rechargeable battery art.

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As to claims 5 and 6, the Examiner is of the opinion that the recitations of a "high speed, high torque" motor and "low voltage" DC motor are merely relative limitations absent any further specific speed, torque or voltage values. The Examiner believes that in any case, values for motor speed, torque or voltage would be deemed obvious since through an optimization process, one skilled in the art would find it obvious to select optimum and appropriate values for the particular function for cleaning drains and sewers.

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The Examiner stated, with respect to claim 7, that one skilled in the art would find it obvious to provide for a motor and voltage control for added safety purposes. The Examiner also believes it to be obvious to control the rotational output of the motor dependent upon the cleaning task at hand.

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In determining the difference between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would

1 have been obvious, but whether the claimed invention as a whole would have been  
obvious. Stratoflex Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir.  
1983). A prior art reference must be considered in its entirety, i.e., as a whole,  
including portions that would lead away from the claimed invention. W.L. Gore &  
5 Associates Inc. v. Garlock Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983).  
Distilling an invention down to the "gist" or "thrust" of an invention disregards the  
requirement of analyzing the subject matter "as a whole." Id.

10 Even more damaging to the Examiner's modification of O'Brien is that the  
Examiner has failed to point out any suggestion or motivation to modify the reference  
in the manner suggested. MPEP § 2143.01. Obviousness can only be established  
by combining or modifying the teachings of the prior art to produce a claimed  
invention where there is some teaching, suggestion, or motivation to do so, found  
either explicitly or implicitly in the references themselves or in the knowledge  
15 generally available to one of ordinary skill in the art. Id. In Kotzab, 217 F.3d 1365,  
1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000), the Federal Circuit decided that the  
control of multiple valves by a single sensor rather than by multiple sensors was a  
technologically simple concept. However, the Federal Circuit held that there was no  
20 finding as to the specific understanding or principle within the knowledge of the  
skilled artisan that would have provided the motivation to use a single sensor as the  
system to control more than one valve. Id.

25 The mere fact that a reference can be modified does not render the resulting  
modification obvious unless the prior art also suggests the desirability of the

1 modification. In re Mills, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). "A  
statement that modifications of the prior art to meet the claimed invention would have  
been 'well within the ordinary skill of the art at the time that the claimed invention was  
made because the references relied upon teach that all aspects of the claimed  
5 invention were individually known in the art' is not sufficient to establish a *prima facie*  
case of obviousness...." Ex parte Levengood, 28 USPQ2d 1300 (Bd. Pat. App. &  
Inter. 1993).

10 Regarding the present invention, the Examiner has failed to show any  
suggestion or motivation to modify the O'Brien reference. Therefore, Appellants  
assert that the structure of claim 1 would not have been obvious to one having  
ordinary skill in the art at the time of the invention pursuant to 35 U.S.C. § 103(a).  
Appellants contend that the electrocution hazard involved with AC sewer and drain  
cleaners has been widely recognized for many years, but Appellants are believed to  
15 be the first persons to ever develop a battery-driven sewer and drain cleaner such as  
set forth in claim 1. Suddenly, due to 20/20 hindsight, the Examiner believes that  
Appellants battery-powered sewer and drain cleaner as set forth in claim 1 would  
have been obvious, although the Examiner has been unable to find a single piece of  
20 prior art wherein a sewer and drain cleaner has been controlled and driven by a low  
voltage DC motor.

25 Claim 2 is dependent on claim 1 and adds the limitation thereto that the DC  
motor is operatively connected to the drum by a belt drive. Even though O'Brien '740  
does teach that a belt 60 passes around the outer drum, the motor 58 of O'Brien is

1 not a DC motor. Accordingly, claim 2 is believed to be allowable over O'Brien '740  
since O'Brien does not teach or suggest that a DC motor be operatively connected to  
the drum by a belt drive.

5 Claim 3 depends from claim 1 and adds the limitation thereto that the DC  
motor is operatively connected to the drum by a gear drive. Inasmuch as O'Brien  
does not teach a DC motor and does not teach that the drum could be driven by a  
gear drive, Appellants submit that claim 3 is allowable over O'Brien '740 inasmuch as  
there is absolutely no suggestion or teaching that the O'Brien '740 sewer and drain  
10 cleaner could be driven by a DC motor which was operatively connected to the drum  
by a gear drive. Accordingly, claim 3 is believed to be allowable.

15 Claim 4 depends from claim 1 and adds the limitation thereto that the battery  
comprises a battery pack. There is absolutely no suggestion in O'Brien that a sewer  
and drain cleaner could be driven by a DC battery, let alone a DC battery pack.  
Accordingly, claim 4 defines structure which would not have been obvious to a  
person having ordinary skill in the art at the time of the invention under 35 U.S.C. §  
103(a).

20 Claim 5 depends from claim 1 and adds the limitation thereto that the DC  
motor comprises a high speed, high torque motor. Inasmuch as O'Brien '740 does  
not remotely teach or suggest that the '740 machine could be battery-operated, there  
can be no teaching or suggestion that a DC motor could be used which is a high  
speed, high torque motor. A high speed, high torque motor is necessary to achieve  
the proper drain cleaning function. Inasmuch as the prior art is devoid of any  
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1 teaching that a sewer and drain cleaner could be battery-powered, there can be no  
teaching or suggestion that such a DC motor would be a high speed, high torque  
motor. Therefore, the structure set forth in claim 5 is believed to be allowable over  
O'Brien '740.

5 Claim 6 depends from claim 1 and adds the limitation thereto that the battery-  
powered sewer and drain cleaner of claim 1 is a low voltage DC motor. Appellants  
incorporate the remarks set forth hereinabove in support of their contention that the  
use of a low voltage DC motor to power a battery-powered sewer and drain cleaner  
10 would not have been obvious under 35 U.S.C. § 103(a). Accordingly, claim 6 should  
be allowed.

15 Claim 7 depends from claim 1 and adds the limitation thereto that the control  
includes a motor and voltage control. Again, there is absolutely no suggestion  
whatsoever in O'Brien '740 that a battery-powered sewer and drain cleaner could be  
controlled by a motor and voltage control mechanism. Therefore, claim 7 is also  
believed to be allowable.

Accordingly, Appellants assert that the Examiner's rejection of claims 1-7 is in  
error.

#### 20 CONCLUSION

The foregoing has clearly shown that each of the claims under consideration is  
not rendered obvious under 35 U.S.C. § 103(a). Accordingly, the Examiner's final  
rejection should be reversed.

Respectfully submitted,

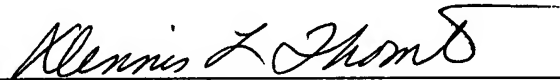


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CERTIFICATE OF MAILING

I hereby certify that the original of APPELLANTS' APPEAL BRIEF for DAVID W. MANNING, ET AL., Serial No. 10/624,360, was mailed by first class mail, postage prepaid, to the Mail Stop Appeal Briefs-Patent, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 10<sup>th</sup> day of May, 2005.



DENNIS L. THOMTE

## APPENDIX

1

1. A battery-powered sewer and drain cleaner, comprising:

a frame;

a rotatable drum mounted on said frame which has a flexible plumber's snake

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associated therewith;

a DC motor mounted on said frame;

said motor having a driven shaft operatively connected to said drum for rotating the  
same;

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a rechargeable battery mounted on said frame for powering said DC motor;

and a control connected to said DC motor for controlling the operation thereof.

2. The battery-powered sewer and drain cleaner of claim 1 wherein said  
DC motor is operatively connected to said drum by a belt drive.

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3. The battery-powered sewer and drain cleaner of claim 1 wherein said  
DC motor is operatively connected to said drum by a gear drive.

4. The battery-powered sewer and drain cleaner of claim 1 wherein said  
battery comprises a battery pack.

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5. The battery-powered sewer and drain cleaner of claim 1 wherein said  
motor comprises a high speed, high torque motor.

6. The battery-powered sewer and drain cleaner of claim 1 wherein said  
motor is a low voltage DC motor.

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7. The battery-powered sewer and drain cleaner of claim 1 wherein said  
control includes a motor and voltage control.